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			First Named Inventor	Yun Ling						
			Art Unit	2841						
			Examiner Name	Dameon E. Levi						
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Fee Attached		Licensing-related Papers		Appeal Communication to Board of Appeals and Interferences						
Amendment / Response		Petition		Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)						
After Final Affidavits/declaration(s) Extension of Time Request Express Abandonment Request		Petition to Convert a Provisional Application Power of Attorney, Revocation Change of Correspondence Address Terminal Disclaimer Request for Refund CD, Number of CD(s)		Proprietary Information Status Letter Other Enclosure(s) (please identify below):						
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Typed or printed name Rachael Brown										
Signature	I'KUS)	_	Date	January 21, 2005					



FEETRANSMITTAL for FY 2005 Patent fees are subject to annual revision. Applicant claims small entity status. See 37 CFR 1.27. TOTAL AMOUNT OF PAYMENT (\$) Source Complete if Known Application Number 10/054,083 Filing Date January 18, 2002 First Named Inventor Yun Ling Examiner Name Dameon E. Levi Art Unit 2841 Attorney Docket No. 42390P13118

TOTAL AMOUNT OF PAYMENT	(\$) 500.00	Attorney Docket No.	42390P13118						
METHOD OF PAYMENT (check all that apply)									
☑ Check ☐ Credit card ☐ Money Order ☐ None ☐ Other (please identify):									
For the above-identified deposit account, the Director is hereby authorized to: (check all that apply) Charge fee(s) indicated below Charge any additional fee(s) or underpayment of fee(s) Under 37 CFR §§ 1.16, 1.17, 1.18 and 1.20.									
FEE CALCULATION									
1. EXTRA CLAIM FEES Extra Claims Total Claims 17 Independent Claims 4* = 0	Fee from below Fee Paid 50.00 = \$0.00 200.00 = \$0.00								
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ţ	Signature		111111l		Date	11/22/04



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:

Yun LING, et al.

Serial No.: 10/054,083

Group Art Unit:

2841

Filed:

January 18, 2002

Examiner:

D. Levi

FOR:

A NOVEL LEVER DESIGN THAT COMBINES MODULE

INSERTION, RETENTION, EJECTION FUNCTIONS FOR

ADD-IN CARDS

APPEAL BRIEF

Mail Stop Appeal Brief - Patents Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Applicant submits this appeal brief, thus perfecting the notice of appeal filed on November 22, 2004.

The required headings and subject matter follow.

(i) Real party in interest.

This case is assigned of record to Intel Corporation, who is the real party in interest.

(ii) Related appeals and interferences.

There are no known related appeals and / or interferences.

(iii) Status of claims.

Claims 1, 3-11, and 13-19 are pending in the case and stand rejected. The rejections of claims 1, 3-11, and 13-19 are being appealed.

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(iv) Status of amendments.

No amendments have been made following the final office action mailed July 22, 2004. The attached Claims appendix reflects the current status of amendments.

(v) Summary of claimed subject matter.

According to some embodiments of the invention, a card-edge connector assembly (e.g. see assembly 120 in Fig. 1 or assembly 220 in Fig. 2) includes a connector (e.g. see connector 100 in Figs. 1-2 and related description on pages 5-8) having a slot therein (e.g. see slot 103 in Figs. 1-2 and related description on pages 5-8) to receive an edge portion of a card (e.g. memory card 101 in Figs. 1-2 and related description on pages 5-8), and a lever mechanism (e.g. see lever 102 or 104 in Figs. 1-2 and related description on pages 5-8) movably coupled to the connector (100) and having an engaging surface (e.g. see engaging surface 117 in Figs. 1-2 and related description on pages 5-8) positioned on the lever mechanism (102 or 104) to apply a lever force on the card (101) during insertion of the card (101) in the slot (103) of the connector (100), wherein the engaging surface (117) is adapted to contact a contact surface (e.g. see contact surface 107 in Figs. 1-2 and related description on pages 5-8) on the card (100). Some embodiments of the invention include positioning a bottom edge of a card in a slot formed in a card-edge connector such that a first contact surface on a side edge of the card is positioned to contact an engaging surface of a lever mechanism pivotally coupled with the connector (e.g. see block 802 of Fig. 8 and paragraph 32 on page 11), actuating the lever mechanism (e.g. see block 803 of Fig. 8 and paragraph 33 on page 11), and moving the card into the slot by moving a contact surface of the lever mechanism from a first position to a second position (e.g. see block 804 of Fig. 8 and paragraph 33 on page 11).

(vi) Grounds of rejection to be reviewed on appeal.

I. Claims 1, 3-11, and 13-19 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,603,625 (Tondreault) in view of U.S. Patent No. 5,470,240 (Suzuki).

(vii) Argument.

I. The rejection of claims 1, 3-11, and 13-19 under 35 U.S.C. § 103 as being unpatentable over Tondreault in view of Suzuki, is in error and should be reversed.

Claim 1

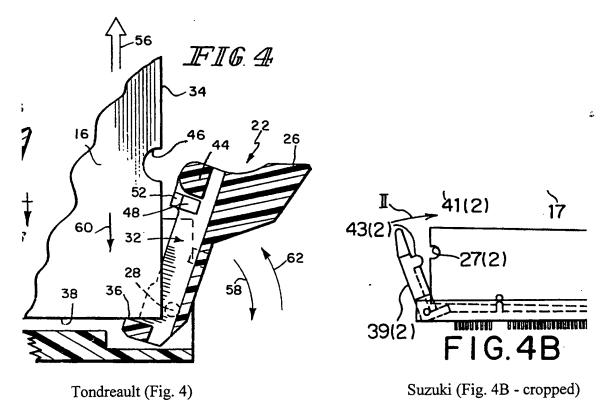
With respect to claim 1, the Examiner fails to establish a prima facie case of obviousness. Claim 1 recites, among other things, an engaging surface positioned on the lever mechanism to apply a lever force on the card during insertion of the card in the slot of the connector. Neither of the cited references teaches or suggests this claim recitation. Accordingly, no combination of these two references can establish a prima facie case of obviousness for claim 1.

On page 2 of the final office action, the Examiner admits that "Tondreault does not expressly teach the lever mechanism having an engaging surface positioned on the lever mechanism to apply a lever force on the card during insertion of the card in the slot of the connector, wherein the engaging surface is adapted to contact a contact surface on the card."

The office action relies on Suzuki to provide this missing teaching. However, Suzuki also fails to disclose the admittedly missing teaching from Tondreault.

The office action relies on lever 39(2) and side projection 43(2) in Suzuki for allegedly disclosing the missing features. However, a simple side-by-side comparison of Fig. 4 of Tondreault with Fig. 4B of Suzuki shows that the lever 39(2) is nearly identical to the ejector 22

of Tondreault, with the side projection 43(2) being substantially identical to the locking head 44 of Tondreault:



With substantially identical structures, the features admitted to be missing from Tondreault are likewise admittedly missing from Suzuki.

The Examiner correctly notes that the card is not positively recited in the claims, but continues to commit legal error by refusing to give patentable weight to all of the claim terms, including phrases prefaced by the 'adapted to' language.

In any event, the Examiner misconstrues the Suzuki reference and fails to give appropriate weight to portions of the reference which teach away from the claims. The office action relies on col. 3, lines 47-57, which states:

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The first and the second levers 39 are for prying in cooperation the card board 21 to put the card board 21 into and out of mechanical contact with the card edge connector 31 and to bring the connecting pads 25 into and

out of the electrical connection with the conductive contacts 17. More particularly, the first and the second levers 39 are provided with first and second side projections 43(1) and 43(2) at their inward edges. The first and second side projections 43 (suffixes omitted) are situated so as to fit in the side recesses 27 (suffixes omitted) when the card board 21 is put in place.

The Examiner apparently places great weight on the sentence: "The first and the second levers 39 are for prying in cooperation the card board 21 to put the card board 21 into and out of mechanical contact with the card edge connector 31 and to bring the connecting pads 25 into and out of the electrical connection with the conductive contacts 17." However, this sentence appears to be a broken English translation and does not clearly or unambiguously teach the function of the levers 39. Applicants note that the foregoing passage is devoid of any specific teaching that the side projection 43(2) contacts the recess 27(2) of the card board 21 during insertion of the card board 21. The passage merely indicates that the projection 43(2) fits in the recess 27(2) when the card board 21 is in place (i.e. already completely seated in the connector 31). In fact, the side projections 43(1) and 43(2) only provide a card retention function. The Examiner must consider the entire teachings of the document including those portions of the reference which teach away from the claims, and not just a single ambiguous and out of context sentence. All substantive references to the side projections 43 follow:

"More particularly, the first and second levers 39 are provided with first and second side projections 43(1) and 43(2) at their inward edges. The first and second side projections 43 (suffixes omitted) are situated so as to fit in the side recesses 27 (suffixes omitted) when the card board 21 is in place." See col. 3, lines 51-57.

"As will be readily understood, it is possible to provide the side projections 43 on the side card edges and the side recesses 27 on the inward edges. In other words, each of the levers 39 may be provided with one of the side projection 43 and the side recess 27 with the other side

projection 43 and the side recess 27 formed on the side card edge" See col. 3, lines 58-63.

"Alternatively, it is possible to provide none of the side recesses 27 on the side card edge. In this event, the side projections 43 of the levers 39 are used to make the side card edges." See col. 3, lines 64-67.

"In FIG. 4(A), the first lever 39(1) is used first to support the card board 21 at one of its side card edges by cooperation of the side projection 43(1) with the side recess 27(1) (FIG. 2)." See col. 4, lines 2-5.

"FIG. 8 shows that the location of the projection 43 and recess 27 may be reversed as shown at 43(2)' and 27(2)'." See col. 4, lines 12-13.

"In FIG. 4(C), the card board 21 is put in place. The side projection 43(2) is snugly received in the side recess 27(2) (FIG. 4(B))." See col. 4, lines 24-26.

None of the foregoing passages teach or suggest that the side projection 43(2) applies a lever force on the recess 27(2) during insertion of the card board 21 into the connector 31. Instead, the foregoing passages suggest only that the projection 43(2) provides a card retention function (the projections 43 "are situated so as to fit in the side recesses 27"; the "side projection 43(2) is snugly received in the side recess 27(2)"). Absent the hindsight teaching afforded by the present application, one skilled in the art would only understand the side projection 43(2) to identically correspond to the locking head 44 disclosed in Tondreault, which, as admitted by the Examiner, also performs only a card retention function ("locking head 44 enters notch 46 formed in end edge 34 of daughtercard 16 to prevent daughtercard 16 from moving vertically in the direction of arrow 56 relative to socket 10." See col. 3, lines 63-66 of Tondreault). If anything, the substantially identical structure between the locking head 44 and the side projection 43(2) teaches away from any suggestion that the side projection 43(2) provides an insertion function.

As further proof that the side projections 43 do not provide an insertion function, applicants note that the absence of any mention of "prying" in connection with the side projections 43 stands in contrast to the explicit reference to "prying" in connection with the wrench arms 41, which provide the ejection function. At col. 4, lines 35-38, Suzuki describes how, on disassembly, a user pulls the lever 39(2) outwardly and "... the wrench arm 41 serves to pry the card board 21 ...". In light of this explicit disclosure for the ejection function, the absence of such explicit disclosure teaches away from any suggestion that the side projections 43 provide an insertion function.

A careful reading of the Suzuki reference as a whole shows that the first lever 39(1) assists in the insertion of the card, albeit with a different structure and in a different manner from the present claims, and the second lever 39(2) assists in the ejection. In the abstract, Suzuki explicitly states: "Supported by the first lever, the card board is urged to the insulator rod until its bottom edge fits the indent." The abstract then goes on to state: "On detaching the card board, the second lever is supposed to be outwardly pulled by a user. Being pried by a wrench of the second lever, the card board is turned upwardly so that the card board is put out of mechanical contact with the rod." Accordingly, the first lever assists in the card insertion (albeit with a different structure and in a different manner from the present claims) and the second lever assists in the ejection.

This correct reading of the reference is further supported by a careful reading of the detailed description. The card insertion process is described at col. 4, lines 1-27, primarily in connection with the operation of the first lever 39(1). The card ejection process is described at col. 4, lines 35-48, primarily in connection with the operation of the second lever 39(2). Accordingly, the Examiner is incorrect in asserting that the side projection 43(2) corresponds to the recited engaging surface positioned on the lever mechanism to apply a lever force on the card during insertion of the card in the slot of the connector.

Because, among other things, neither Tondreault nor Suzuki teaches or suggests an engaging surface positioned on the lever mechanism to apply a lever force on the card during insertion of the card in the slot of the connector, the Examiner has failed to establish a prima

facie case of obviousness for claim 1, and the rejection should be reversed. Claim 3-10 depend from claim 1 and are likewise patentable.

Claims 11 and 13

With respect to claims 11 and 13, the Examiner fails to establish a prima facie case of obviousness. The Examiner fails to comply with 37 C.F.R. § 1.104 (c)(2), because the office action does not sufficiently designate the particular part of the reference relied upon for disclosing each claim recitation and the interrelationships between the claim elements.

The office action fails to identify even a single recitation of the claims or how the reference might read on the claims. This rejection falls far short of meeting the Examiner's burden of establishing a prima facie case of obviousness. Because the Examiner has failed to identify how the claim recitations are allegedly taught or suggested by the references, the rejection should be reversed.

In any event, claim 11 is patentable over the cited combination of references. Claim 11 recites, among other things, positioning a bottom edge of a card in a slot formed in a card-edge connector such that a first contact surface on a side edge of the card is positioned to contact an engaging surface of a lever mechanism pivotally coupled with the connector. The Examiner has failed to identify any portion of either reference which allegedly teaches or suggests this claim recitation. Accordingly, the Examiner has failed to meet the burden of establishing a prima facie case of obviousness.

In fact, neither reference teaches or suggest this recitation. Upon simple inspection of the figures of both references, it is clear that the references show only the situation where the lever is either completely disengaged or completely engaged. None of the figures show a situation where the alleged engaging surface (i.e. locking head 44 in Tondreault or side projection 43(2) in Suzuki) is contacting the alleged contact surface on the card (i.e. notch 46 in Tondreault or recess 27(2) in Suzuki) during the card insertion. The Examiner has not identified and applicants cannot locate any portion of the specification of either reference which describes a situation

where the alleged engaging surface (i.e. locking head 44 in Tondreault or side projection 43(2) in Suzuki) is contacting the alleged contact surface on the card (i.e. notch 46 in Tondreault or recess 27(2) in Suzuki) during the card insertion. Applicants again submit that this is because the locking head 44 and the side projection 43(2) provide only a retention function.

Claim 11 further recites, among other things, actuating the lever mechanism. The Examiner has failed to identify any portion of either reference which allegedly teaches or suggests this claim recitation. Accordingly, the Examiner has failed to meet the burden of establishing a prima facie case of obviousness.

In fact, applicants are unable to identify any portion of the references which might correspond to this recitation, at least in the context of the claim. During the insertion process, neither the ejector 22 nor the lever 39(2) is actuated. Rather the ejector 22 and the lever 39(2) are moved into their retention position by the user pushing the board down. Applicants again submit that this is because the ejector 22 and the lever 39(2) provide only a retention and / or ejection function.

Claim 11 further recites, among other things, moving the card into the slot by moving a contact surface of the lever mechanism from a first position to a second position. For at least the reasons discussed in detail above, the apparently relied upon portion of Suzuki, namely col. 3, lines 47-57, is misconstrued by the Examiner and fails to teach or suggest these claim recitations. Moreover, the Examiner fails to consider those portions of Suzuki identified above which teach away from the claims. Applicants submit that both references provide the same teaching, namely that the card is inserted in the slot by the user pushing the card into the slot without the aid of the ejector 22 (in Tondreault) or the lever 39(2) (in Suzuki).

Because the Examiner has failed to perform sufficient analysis to maintain an obviousness rejection, and because the Examiner has failed to establish a prima facie case, and because, in fact, no combination of the references teaches or suggests the above noted claim recitations, independent claim 11 is patentable over Tondreault in view of Suzuki. Claim 13 depends from claim 11 and is likewise patentable.

Claim 14

With respect to claim 14, the office action fails to establish a prima facie case of obviousness. The Examiner fails to comply with 37 C.F.R. § 1.104 (c)(2), because the office action does not sufficiently designate the particular part of the reference relied upon for disclosing each claim recitation and the interrelationships between the claim elements. The office action simply reproduces various claim recitations followed by a string citation of 11 different elements disclosed in Tondreault (10, 14, 16, 12, 20, 22, 24, 28, 30, 32, 36), every figure in Tondreault (Figs. 1-5), and every text column of description in Tondreault (columns 1-4). This rejection falls far short of meeting the Examiner's burden of establishing a prima facie case of obviousness. Applicants are not required to guess as to how the references are being applied to the claim.

For example, claim 14 recites, among other things, a hole formed in each planar surface. The office action asserts that Tondreault teaches this claim recitation without citation to any supporting portion of Tondreault (other than every figure and the complete text description). However, upon reference to the figures, and particularly Fig. 1 of Tondreault, it is seen that the walls of the connector do not have any holes formed therethrough. The Examiner has the burden of establishing how each and every claim recitation is disclosed by the reference. It is improper and legal error for the Examiner to gloss over or simply disregard recitations of the claims.

In any event, claim 14 is patentable over the cited combination of references. Claim 14 recites, among other things, an engaging surface attached to a surface of the lever mechanism above the ejector to engage a contact surface on the card <u>during insertion</u> of the card in the slot. For at least the reasons discussed in detail above, the relied upon portion of Suzuki, namely col. 3, lines 47-57, is misconstrued by the Examiner and fails to teach or suggest these claim recitations. Moreover, the Examiner fails to consider those portions of Suzuki identified above which teach away from the claims. Applicants submit that both references provide the same teaching, namely that the card is inserted in the slot by the user pushing the card into the slot without the aid of the ejector 22 (in Tondreault) or the lever 39(2) (in Suzuki).

Because the Examiner has failed to perform sufficient analysis to maintain an obviousness rejection, and because the Examiner has failed to establish a prima facie case, and because, in fact, no combination of the references teaches or suggests the above noted claim recitations, independent claim 14 is patentable over Tondreault in view of Suzuki. Claims 15-19 depend either directly or indirectly from claim 14 and are likewise patentable.

CONCLUSION

In view of the foregoing, favorable reconsideration and reversal of the rejections is respectfully requested. Early notification of the same is earnestly solicited. If there are any questions regarding the present application, the Examiner and / or the Board is invited to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,

January 21, 2005

Date

Paul E. Steiner

Reg. No. 41,326 (703) 633 - 6830

Intel Americas LF3 4030 Lafayette Center Drive Chantilly, VA 20151

> I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22010 cn.

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(viii) Claims appendix.

1. A card-edge connector assembly, comprising:

a connector having a slot therein to receive an edge portion of a card; and

a lever mechanism movably coupled to the connector and having an engaging surface positioned on the lever mechanism to apply a lever force on the card during insertion of the card in the slot of the connector,

wherein the engaging surface is adapted to contact a contact surface on the card.

- 2. (canceled).
- 3. The assembly of claim 1, wherein the engaging surface includes a surface defined by a protuberance.
- 4. The assembly of claim 1, wherein the card is a memory card.
- 5. The assembly of claim 1, wherein the lever mechanism includes a lever pivotally coupled with the connector via a pivot positioned near a base end of the lever.
- 6. The assembly of claim 5, wherein the engaging surface is located on a middle portion of the lever.

7. The assembly of claim 1, wherein the lever mechanism includes a contact surface adapted to be moved from a first open position to a second closed position, and wherein the contact surface moves a greater distance than a distance traveled by the engaging surface when the lever mechanism is moved from the first open position to the second closed position.

8. The assembly of claim 1, further comprising:

an ejector attached to a base end of the lever mechanism to remove from the slot the card inserted therein when the lever mechanism is moved from a closed position to an open position.

- 9. The assembly of claim 1, further comprising:
 - a locking mechanism coupled with a lever to lock the lever in a closed position.
- 10. The assembly of claim 9, wherein the locking mechanism is adapted to emit an audible sound as it locks into place.
- 11. A method comprising:

positioning a bottom edge of a card in a slot formed in a card-edge connector such that a first contact surface on a side edge of the card is positioned to contact an engaging surface of a lever mechanism pivotally coupled with the connector;

actuating the lever mechanism; and

moving the card into the slot by moving a contact surface of the lever mechanism from a first position to a second position.

12. (canceled).

13. The method of claim 11, further comprising:

removing the card from the slot by moving the lever mechanism from the second position to the first position.

14. An electrical assembly, comprising:

a connector having a slot therein to receive a card;

a first case attached to a first end of the connector, the first case having first and second opposing planar surfaces defining a channel therebetween, and having a hole formed in each planar surface;

a lever mechanism having a first end, a base end, and a middle portion, the lever mechanism having a contact surface movable by a user between a first position and a second position;

an ejector attached to the base end of the lever;

an engaging surface attached to a surface of the lever mechanism above the ejector to engage a contact surface on the card during insertion of the card in the slot; and

a first and second pivots attached to a first and second sides of the lever, respectively, proximate the middle portion of the lever mechanism.

15. The electrical assembly of claim 14, wherein the lever mechanism is pivotally coupled with the connector by insertion of the first pivot in the hole in the first planar surface of the first case and insertion of the second pivot in the hole in the second planar surface of the first case.

16. The electrical assembly of claim 14, wherein the engaging surface includes a surface defined by a protuberance.

- 17. The electrical assembly of claim 16, wherein the ejector includes a protuberance to engage a bottom edge of the card.
- 18. The electrical assembly of claim 14, wherein the lever mechanism is made of plastic.
- 19. The electrical assembly of claim 14, further comprising:a printed circuit board attached to a bottom surface of the connector.

None.

(x) Related proceedings appendix.

None.